

UPnP ENABLING DEVICE FOR HETEROGENEOUS NETWORKS OF SLAVE DEVICES

ABSTRACT OF THE DISCLOSURE

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A bridging device couples an IP (Internet Protocol) network to one or more non-IP networks, in order to facilitate the control of non-UPnP (Universal Plug and Play) devices by a UPnP controller on the IP network. Each of the non-IP slave networks may employ different network technologies, such as USB, Bluetooth, HAVi, Home API, HomeRF, X-10, Jini, and so on. The bridging device includes an IP network interface for receiving commands and requests from the UPnP controller, and one or more slave network interfaces that transform the received commands and requests into device and network specific commands and requests. These device and network specific commands and requests are communicated to the controlled non-UPnP device, via the slave network, using the slave network's protocol. The bridging device also communicates event status messages to the UPnP controller, corresponding to the non-UPnP devices' response to the UPnP controller's commands and requests. The bridging device also includes enabling logic to support the UPnP addressing, discovery, and description processes for each of the devices on the non-IP network. To minimize the storage requirements at the bridging device, the bridging device is configured to use a file server that is also resident on an IP network, wherein the file server contains the detailed information required to effect the appropriate UPnP addressing, discovery, and description processes, and other information-laden tasks, as required.